

**Work Order ID 47920**

June 26, 2009 12:37:02 PM

**PRELIMINARY ISSUE**

Page 1

Item ID: D119-646-141  
Revision ID: PRELIMINARY  
Item Name: REPLACEMENT STD SKIDTUBE WITH FULL

Accept



Setup Start



Stop



Start Date: 15/07/2009 Start Qty: 1.00  
Required Date: 03/08/2009 Req'd Qty: 1.00



Cust Item ID:  
Customer:

Reference:

Approvals: Process Plan:  
QC:

Date:  
Date:

Tooling:  
SPC (Y/N):

Date:  
Date:

Run Start  
Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw Draw Plan Accept Reject Reject Insp.  
Number Number Code Qty Qty Number Stamp

Draw Nbr

Revision Nbr

100



DC

Document Control

Memo

0.00

0.00 ✓

110



Skidtubes

Skidtubes

Memo

0.00

0.00 ✓

120



HandFinish

Hand Finishing

Memo

0.00

0.00 ✓

SEE ATTACHED wlo

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Page 2

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Stop



Start Date: 15/07/2009 Start Qty: 1.00



Required Date: 03/08/2009 Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Run Start



Stop



Approvals: Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

130

0.00



Skidtubes

Memo

0.00

Skidtubes

140

0.00



Skidtubes

Memo

0.00

Skidtubes

150

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

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Setup Start



Stop



Start Date: 15/07/2009 Start Qty: 1.00



Required Date: 03/08/2009 Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: Date: QC: Date:

Tooling: Date: SPC (Y/N): Date:

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160  Skidtubes Skidtubes	Memo	0.00 0.00							
170  QC5 Quality Control	Memo	0.00 0.00							
180  QC10 Quality Control	Memo	0.00 0.00							

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Page 4

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Setup Start



Stop



Start Date: 15/07/2009 Start Qty: 1.00



Required Date: 03/08/2009 Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

190

0.00



HandFinish

Memo

0.00

Hand Finishing

200

0.00



Powdercoat

Memo

0.00

Powder Coating

210

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

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Page 5

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Setup Start



Stop



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Required Date: 03/08/2009 Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

220

0.00



HandFinish

Memo

0.00



Hand Finishing

230

0.00



QC

QC5- Inspect part completeness to step on W/O

Memo

0.00



Quality Control

240

0.00



HandFinish

Memo

0.00



Hand Finishing

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Setup Start



Stop



Start Date: 15/07/2009 Start Qty: 1.00  
Required Date: 03/08/2009 Req'd Qty: 1.00



Cust Item ID:  
Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:  
QC: Date: SPC (Y/N): Date:

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
250  QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00 0.00 ✓							
260  Packaging Packaging	  Memo	0.00 0.00 ✓							
270  QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00 0.00							

MF  
09-07-09

Date: Tuesday, 12/05/2009 1:46:47 PM  
 User: Melanie Fauteux

## Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: REPLACEMENT STD SKIDTUBE WITH FULL LENGTH WEARPLATE
Job Number	: 47920		
Estimate Number	: 13928		
P.O. Number	:	Part Number	: D119646141 03887-043
This Issue	: 12/05/2009 S.O. No. :	Drawing Number	: D3887 PRELIM
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: / / Type : SKIDTUBES	Drawing Revision	: PRELIM
Previous Run	: 47833	Material	:
Written By	:	Due Date	: 19/05/2009 Qty: 1 Um: Each
Checked & Approved By	: <u>MF 09-05-12</u>		
Comment	: Est Rev:A 09-05-07 new issue EC verified by:DD		

## Additional Product

12/09-05-12  
**PRELIMINARY ISSUE**

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0 ✓ DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Photocopy bluefile &amp; type labels per PPP D119-646-243 CHG001 N/A

2.0

D25001190

Ext'n - 'I' Beam Tube 4"



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Ext'n - 'I' Beam Tube 4"

batch: B40150

3.0 ✓

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1- Bend FWD end of tube using Bender 1 and bend prog D3887 FWD per dwg D3887 ✓

2- Cut FWD end of tube as per dwg D3887. ✓

3- Cut AFT end of tube as per dwg D3887. ✓

4- Buff out marks left from bending ✓

5- Drill Aft cap pilot hole using DT8149 \*\*\*DO NOT OPEN TO FINISHED SIZE\*\*\*

6- ~~Cleco DT8149 in position and~~ install drill Jig DT 9477 ✓ AFT CAP ✓ drill X-bolt spacer pilot holes using 3/16" drill + open to .313

7- Drill FWD cap holes using DT8215. Open FWD &amp; AFT cap holes to 0.208"

8- Drill FWD holes ✓

Verify Measurement

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



Date: Tuesday, 12/05/2009 1:46:47 PM  
User: Melanie Fauteux

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: REPLACEMENT STD SKIDTUBE WITH FULL LENGTH WEARPLATE

Job Number: 47920

Part Number: D119646141

Job Number:



Seq. #:

Machine Or Operation:

Description :

9- Drill Tow ring hole using DT \_\_\_\_\_ Open to finished size.

*Verify Measurement*

10--Drill wearplate holes

*+ open to .297  
remove in ridge of tube as per dwg*

11- Deburr

*09-05-21*

4.0

✓ HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Acid Etch and Alodine tube as per QSI 005 4.1

*09-05-21*

5.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

**ENGINEERING  
APPROVAL**

7.0

✓ SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Open crossbolt spacer holes to finished size.

2-Deburr crossbolt spacer holes as per Dwg D3887 and blow out chips from inside the tube

*09-05-26*

8.0

D38851

Web, Std



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Web, Float

batch:

*38851 647739*

*09-05-26*

9.0

✓ SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Bond web in place as per Dwg D3887 & QSI 015.

A/R Sikaflex-291

Sikaflex expire date:

Start:

*11 081*

*2010-01-01*

*400*

*09-05-26*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Tuesday, 12/05/2009 1:46:47 PM  
User: Melanie Fauteux

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: REPLACEMENT STD SKIDTUBE WITH FULL LENGTH  
WEARPLATE

Job Number: 47920

Part Number: D119646141

Job Number:



Seq. #:

Machine Or Operation:

Description :

Finish: 2090527 Time: 12:00  
\*\*\*\*\* (Adhere for 12 hours) \*\*\*\*\*

2- Countersink crossbolt spacer holes, and prepare tube for welding, deburr.

RT 09-05-27

3- C'sink crossbolt spacer holes, and prepare tube for welding, deburr.

10.0

✓ QC5

INSPECT WORK TO CURRENT STEP



APPROVAL



Comment: INSPECT WORK TO CURRENT STEP

11.0

D39031

Spacer



Comment: Qty.: 12.0000 Each(s)/Unit Total: 12.0000 Each(s)  
Spacer  
batch: 47476

~~part from stock~~

RT 09-05-27

12.0

D36811

Spacer



Comment: Qty.: 8.0000 Each(s)/Unit Total: 8.0000 Each(s)  
Spacer  
batch: 46107

RT 09-05-27

13.0

✓ SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Insert crossbolt spacers. Weld as per QSI 004 and Dwg D3887. Remember to back drill each hole before welding the other side. Use aluminum rod

A/R Aluminum Rod M111679 BE 09-05-28

2-Grind cross bolt welds flush as per Dwg D3887. Ensure no pin hole.

3-Counterbore 5/16" x 0.750" deep as per Dwg D3887.

4- Deburr & Scribe batch # on Aft end of tube.

RT 09-05-28

14.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Tuesday, 12/05/2009 1:46:47 PM  
User: Melanie Fauteux

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: REPLACEMENT STD SKIDTUBE WITH FULL LENGTH  
WEARPLATE

Job Number: 47920

Part Number: D119646141

Job Number:



Seq. #:

Machine Or Operation:

Description :

15.0

QC10

VISUAL INSPECTION OF GROUND WELDS



Comment: VISUAL INSPECTION OF GROUND WELDS

09-06-03 (1)

16.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Pressure wash as per QSI 005

FL 09/06/04 (1)

17.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3 M 11/1/72

START TIME:

10:20

OVEN TEMPERATURE:

3:20

FINISH TIME:

11:50

BR 09-06-04 (1)

18.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

09-06-05 (1)

19.0

ALS41032130

Insert



Comment: Qty.: 30.0000 Each(s)/Unit Total: 30.0000 Each(s)

INSERT

batch

11/10511

BR

20.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

1-Install inserts as per Dwg D3887.

BR 09-06-15 (1)

21.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

Inspect Nut Plate & Inserts

09-06-15 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: REPLACEMENT STD SKIDTUBE WITH FULL LENGTH  
WEARPLATE

Job Number: 47920

Part Number: D119646141

Job Number:



Seq. #:

Machine Or Operation:

Description :

22.0

D2575

D28553CAP

Cap 09.06.12



D2855



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Cap

batch:

B42313

09/06/12

23.0

D3492045

Plug Assembly



D3492-045  
closed at 103



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

Plug Assembly

batch:

B47659

ORING 11/06/09

05/06/19

24.0

D36721

Phenolic Washer



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Phenolic Washer

batch:

B42329

09-06-15

25.0

D38471

Wearpad



Comment: Qty.: 5.0000 Each(s)/Unit Total : 5.0000 Each(s)

Wearpad

batch:

48179

closed

26.0

D384711

Wearpad



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Wearpad

batch:

B47809

closed at 4

05/06/15

27.0

D3847043

Fwd Wearplate Assembly, Std/Float Gear



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Fwd Wearplate Assembly, Std/Float Gear

batch:

B48180

05/06/15

28.0

D3847045

Center Wearplate Assembly, Std/Float Gea



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Aft Wearplate Assembly

batch:

B48181

05/06/15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



Date: Tuesday, 12/05/2009 1:46:48 PM  
User: Melanie Fauteux

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: REPLACEMENT STD SKIDTUBE WITH FULL LENGTH  
WEARPLATE

Job Number: 47920

Part Number: D119646141

Job Number:



Seq. #:

Machine Or Operation:

Description :

29.0

D3847047

Aft Wearplate Assembly, Std Gear



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)  
Aft Wearplate Assembly, Std Gear

BK 48182

BK 09-06-15

30.0

AN3C4A

BOLT



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)  
BOLT  
batch: M111819

BK  
PTO - D

31.0

AN3C5A

Bolt



Comment: Qty.: 30.0000 Each(s)/Unit Total: 30.0000 Each(s)  
Bolt  
batch: M111807

BK ~~PTO - D~~

32.0

AN960C10L

washer



Comment: Qty.: 34.0000 Each(s)/Unit Total: 34.0000 Each(s)  
washer

M111808

BK

33.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

1-Install wearpads, gaskets and wearplates as per Dwg D3887. Put sikaflex in insert before installing bolts and washers

A/R Sikaflex-240/-291

M111557

Sikaflex expire date:

10/01

BK 09-06-17

2- install plugs assembly as per dwg.

3 -Inspect for foreign objects as per QSI 024

4 -Install Aft Cap and seal with Sikaflex. Clean excess adhesive.

A/R Sikaflex-240/-291

M111557

Sikaflex expire date:

10/01

BK 09-06-18

Wing walk as per drawing M111013

69418

①  
②

SEQ 30.0

CHANGE <sup>AN3C-4A</sup> BOLT FOR BK 09-03-17 ①  
FW CAP → AN3C-5A 2x  
(M111707)

AFT CAD →

CHANGE AN3C-4A FOR → <sup>BE09-03-17</sup> AN3C-6A 2x,  
(~~M110872~~)

AN3C-5A

(M111707)

Date: Tuesday, 12/05/2009 1:46:48 PM  
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WEARPLATE

Job Number: 47920

Part Number: D119646141

Job Number:



Seq. #:

Machine Or Operation:

Description :

34.0

QC5

INSPECT WORK TO CURRENT STEP

OK ~~PA~~ 09-08-01



~~FOR ENGINEERING~~



Comment: INSPECT WORK TO CURRENT STEP

APPROVAL

35.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1  
Identify as per dwg and stock  
Location: \_\_\_\_\_

N/A for eng only

36.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

N/A FOR ENG USE ONLY 09/09/28

Job Completion



POSITIVE RECALL

EFFECTIVE \_\_\_\_\_ AUTH \_\_\_\_\_

RELEASED \_\_\_\_\_ DATE \_\_\_\_\_

8

7

6

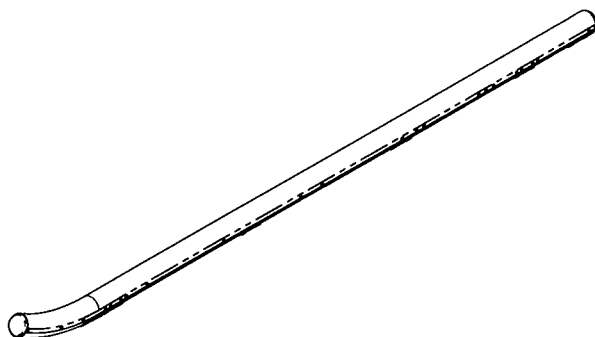
5

4

3

2

1



**D3887-041 STANDARD SKIDTUBE ASSY WITH WEARPAD (SHOWN)**  
**D3887-043 STANDARD SKIDTUBE ASSY WITH WEAPLATE (SIMILAR)**  
**D3887-045 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE (SIMILAR)**

#### NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3885-1 WEB  
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D3887-041 = 31.5 lbs  
D3887-043 = 36.5 lbs  
D3887-045 = 37.6 lbs
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:  
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 8.5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP 0.020" DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 10) INSERT D3885-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP
- 11) INSERT D3492-045 PLUG ASSY INTO Ø0.197 HOLES (BOTH SIDES OF TUBE)
- 12) USE DART DRILL TEMPLATE DT \_\_\_\_\_ TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARPLATE INSERTS. INSTALL AELS-1032-130 INTO D3887-11 ONLY. INSTALL AN3C5A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241/-291.

ITEM	QTY -041	QTY -043	QTY -045	P/N	DESCRIPTION
1	X			D3887-041	STD SKIDTUBE ASSY WITH WEARPAD
2		X		D3887-043	STD SKIDTUBE ASSY WITH WEARPLATE
3			X	D3887-045	STD SKIDTUBE ASSY WITH TRAINING WEARPLATE
11	2	2	2	D2575	CAP
12	16	16		D3492-045	PLUG ASSY
13	4	4	4	D3672-1	PHENOLIC WASHER
14	8	8	8	D3681-1	SPACER
15	5			D3846-1	GASKET
16	1			D3846-11	GASKET
17	5	5		D3847-1	WEARPAD
18	1	1		D3847-11	AFT WEARPAD
19		1		D3847-043	FWD WEARPLATE ASSY
20		1		D3847-045	CENTER WEAPLATE ASSY
21		1		D3847-047	AFT WEARPLATE ASSY
22			1	D3849-041	FWD TRAINING WEARPLATE ASSY
23			1	D3849-043	AFT WEARPLATE ASSY
24	1	1	1	D3885-1	STANDARD WEB
25	1	1		D3887-11	STANDARD SKIDTUBE
26			1	D3887-13	STANDARD SKIDTUBE
27	12	12	12	D3903-1	SPACER
28			16	D3904-1	WASHER
41	30	30		AELS-1032-130	INSERT
42	4	4	4	AN3C4A	BOLT
43	30	30		AN3C5A	BOLT
44			8	AN3C46A	BOLT
46	34	34		NAS1149C0332R	WASHER (OR AN980C10L)
47			8	MS21043-3	NUT

# PRELIMINARY ISSUE

PH 09.05.12

A		NEW ISSUE		RF	09.03.30
REV.		DESCRIPTION		BY	DATE
DESIGN	RF	DART AEROSPACE USA, INC.			
DRAWN	RF	PORT HADLOCK, WA			
CHECKED	PH	DRAWING NO.	D3887	REV. A	
MFG. APPR.	PH			SHEET 1 OF 8	
APPROVED	PH	TITLE	A119 STD SKIDTUBE ASSY	SCALE	
DE APPR.	PH			NTS	
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BORE OUT END  
OF SKIDTUBE TO  
0.75 DEPTH TO FIT  
D2575 CAP TO MIN.  
0.10 THICKNESS WALL

SEAL WITH  
SIKAFLEX-241/291

D2575 CAP

AN3C4A BOLT  
D3672-1 PHENOLIC WASHER  
NAS1149C0332R WASHER  
(1 PER SIDE)

BLACK ANTI-SKID TO 0.5  
ABOVE LOCATION RIDGE  
TYP

Ø0.197  
8 PL/PER SIDE  
REF

BORE OUT END  
OF SKIDTUBE TO  
0.75 DEPTH TO FIT  
D2575 CAP TO MIN.  
0.10 THICKNESS WALL

D2575 CAP

SEAL WITH  
SIKAFLEX-241/291

AN3C4A BOLT  
D3672-1 PHENOLIC WASHER  
NAS1149C0332R WASHER  
(1 PER SIDE)

D3847-047  
AFT WEARPLATE ASSY

D3847-045  
CENTER WEARPLATE ASSY

D3847-043  
FWD WEARPLATE ASSY

D3847-11  
WEARPAD

AN3C5A BOLT  
NAS1149C0332R WASHER  
30 PL

D3847-1  
WEARPAD  
5 PL

**D3887-043 STANDARD SKIDTUBE ASSY WITH WEARPLATE**  
(MAKE FROM D3887-11)

**PRELIMINARY ISSUE**

PH 09.05.12

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
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MFG. APPR.	PH	D3887	SHEET 3 OF 8
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	A119 STD SKIDTUBE ASSY	NTS
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BORE OUT END  
OF SKIDTUBE TO  
0.75 DEPTH TO FIT  
D2575 CAP TO MIN.  
0.10 THICKNESS WALL

SEAL WITH  
SIKAFLEX-241/291

D2575 CAP

AN3C46A BOLT  
D3904-1 WASHER, 2 PL  
MS21043-3 NUT  
8 PL

AN3C4A BOLT  
D3672-1 PHENOLIC WASHER  
NAS1149C0332R WASHER  
(1 PER SIDE)

BLACK ANTI-SKID TO 0.5  
ABOVE LOCATION RIDGE  
TYP

1.5 1.5 1.5

2.00 DISTANCE TO D3885-1 WEB

D3849-043  
AFT TRAINING WEARPLATE ASSY

BORE OUT END  
OF SKIDTUBE TO  
0.75 DEPTH TO FIT  
D2575 CAP TO MIN.  
0.10 THICKNESS WALL

D2575 CAP

1.5

SEAL WITH  
SIKAFLEX-241/291

AN3C4A BOLT  
D3672-1 PHENOLIC WASHER  
NAS1149C0332R WASHER  
(1 PER SIDE)

1.5 1.5

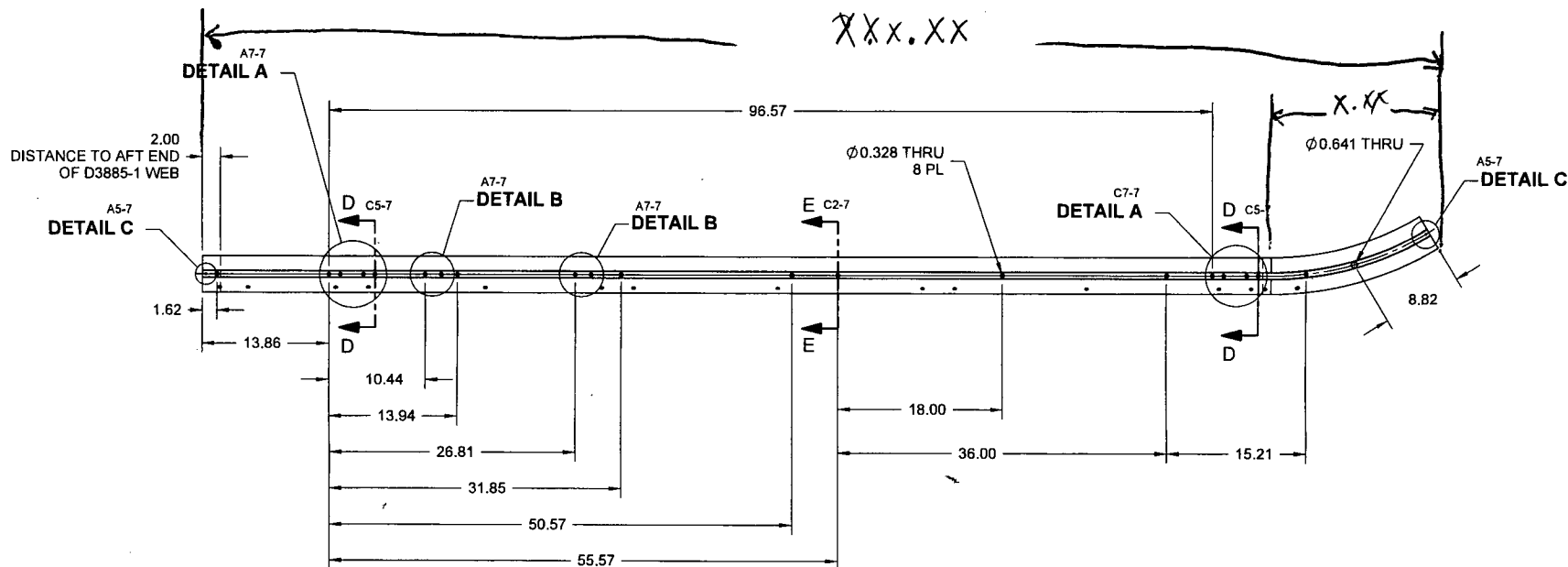
D3849-041  
FWD TRAINING WEARPLATE ASSY

**PRELIMINARY ISSUE**

*PH 09.05.12*

**D3887-045 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE**  
(MAKE FROM D3387-13)

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
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CHECKED	<i>PH</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>SS</i>	D3887	SHEET 4 OF 8
APPROVED	<i>140</i>	TITLE	SCALE
DE APPR.	<i>PH</i>	A119 STD SKIDTUBE ASSY	NTS
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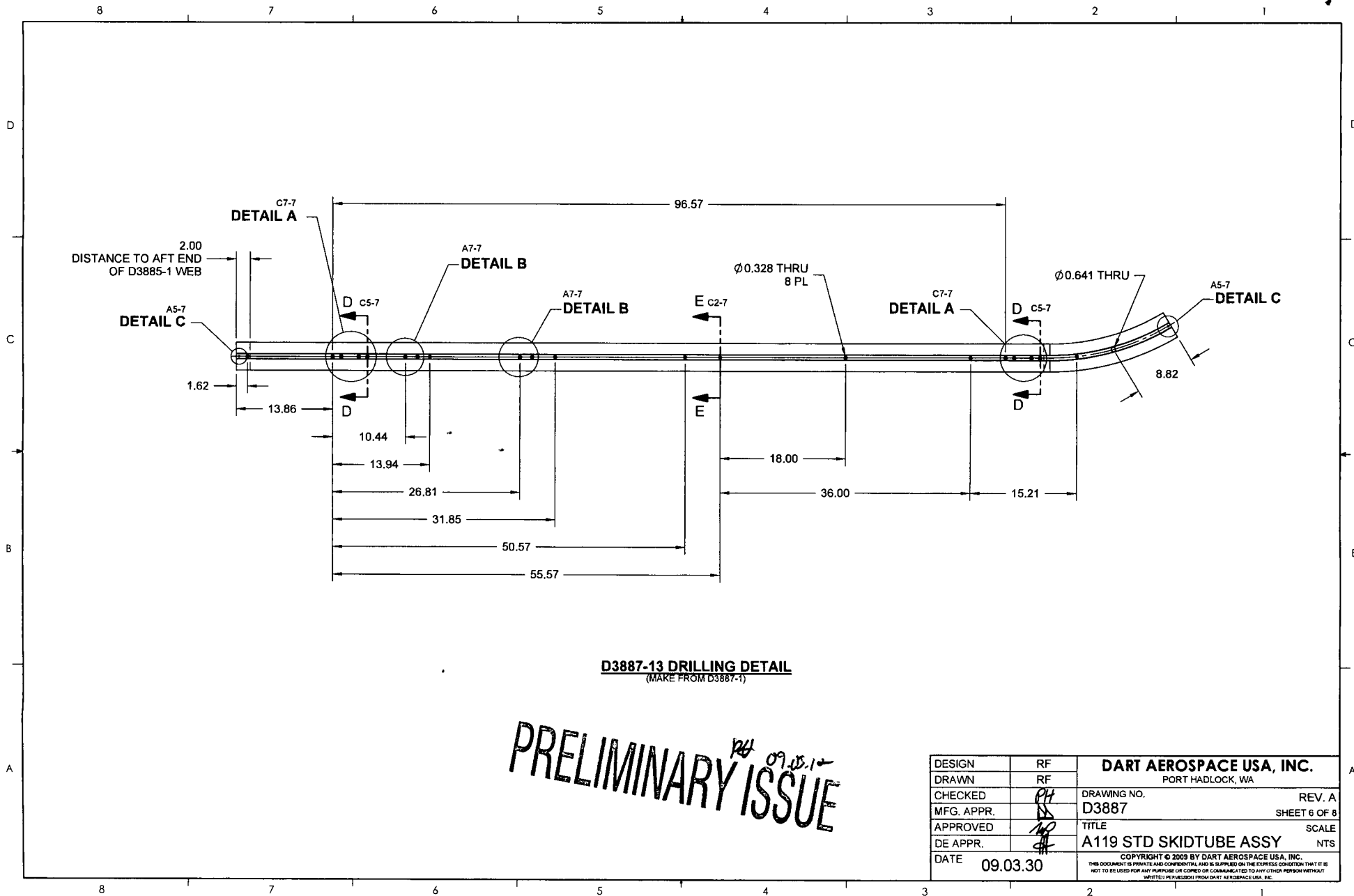


**D3887-11 DRILLING DETAIL**  
(MAKE FROM D3887-1)

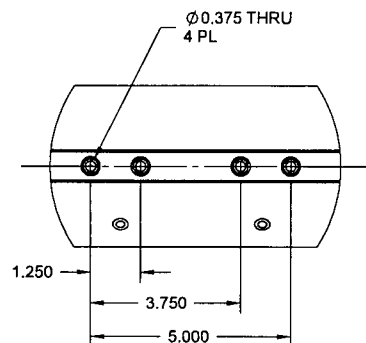
**PRELIMINARY ISSUE** <sup>PH</sup> 09.05.12

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED	PH	DRAWING NO.	REV. A
MFG. APPR.	IS	D3887	SHEET 5 OF 8
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	A119 STD SKIDTUBE ASSY	NTS
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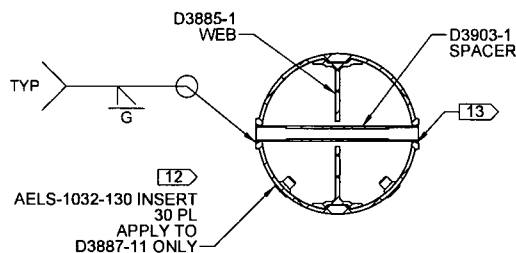




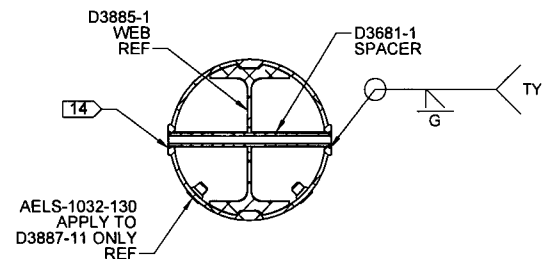
DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED	<i>PH</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>JS</i>	D3887	SHEET 6 OF 8
APPROVED	<i>JP</i>	TITLE	SCALE
DE APPR.	<i>JP</i>	A119 STD SKIDTUBE ASSY	NTS
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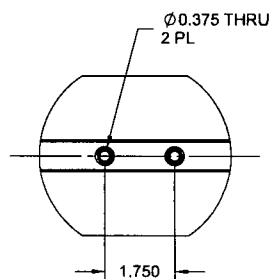
**DETAIL A**  
SCALE 4X  
D7-5  
C3-5  
D7-6  
C3-6



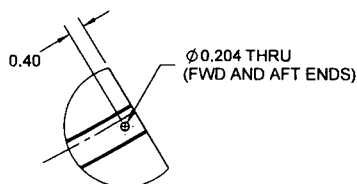
**SECTION D-D**  
SCALE 4X  
(FOR 12 X  $\phi 0.375$  HOLES  
PER SKIDTUBE)  
C7-5  
C3-5  
C7-6  
C2-6



**SECTION E-E**  
SCALE 4X  
(FOR 8 X  $\phi 0.328$  HOLES  
PER SKIDTUBE)  
C4-5  
C4-6



**DETAIL B**  
SCALE 4X  
C6-5  
C5-5  
C6-6  
C5-6

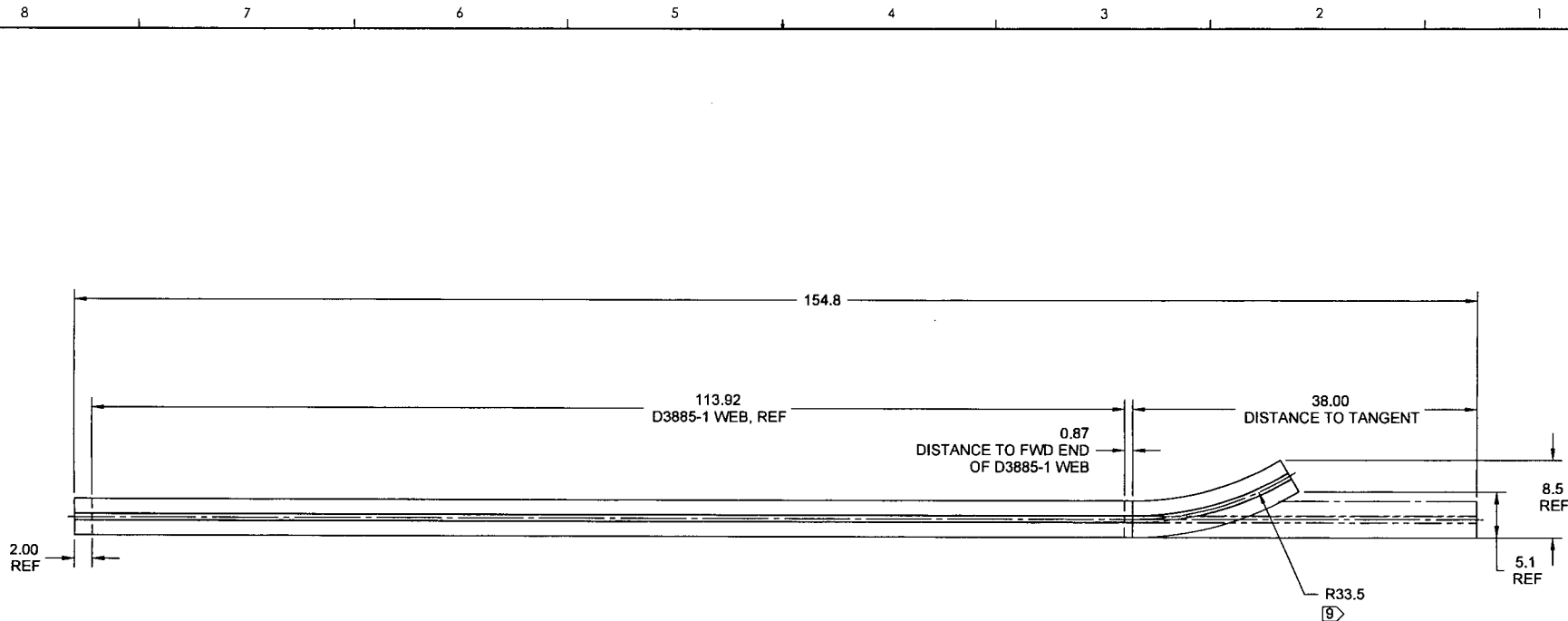


**DETAIL C**  
TYPICAL  
SCALE 4X  
C8-5  
C1-5  
C8-6  
C1-6

**PRELIMINARY ISSUE** *PH 09.03.12*

- NOTES:**
- 13) AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR  $\phi 0.375$  HOLES ONLY:
- i) CHAMFER HOLES  $\phi 0.475 \times 45^\circ$
  - ii) INSERT D3903-1 SPACER
  - iii) WELD INTO PLACE AND GRIND FLUSH
  - iv) C'BORE TO  $0.313 \times 0.75$  DEEP
  - v) DEBURR HOLES
- 14) AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR  $\phi 0.328$  HOLES ONLY:
- vi) CHAMFER HOLES  $\phi 0.428 \times 45^\circ$  (BOTH SIDES)
  - vii) INSERT D3681-1 SPACER
  - viii) WELD INTO PLACE AND GRIND FLUSH
  - ix) DEBURR HOLES

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MFG. APPR.	<i>DS</i>	D3887	SHEET 7 OF 8
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DE APPR.	<i>CH</i>	A119 STD SKIDTUBE ASSY	NTS
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**D3887-1 BEND DETAIL**  
(MAKE FROM D2600-1-190 EXTRUSION)

**PRELIMINARY ISSUE**  
Rt 09-05-12

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CHECKED	PH	DRAWING NO.	REV. A
MFG. APPR.	SS	D3887	SHEET 8 OF 8
APPROVED	140	TITLE	SCALE
DE APPR.	JH	A119 STD SKIDTUBE ASSY	NTS
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